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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/916,548
Filing Date: July 27, 2001
Appellant(s): HARPER, CHARLES N.

Gero G. McClellan
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed on 12/31/07 appealing from the Office action mailed 05/31/07.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,021,402	Takriti	2-2000

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 21-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Takriti (US PAT: 6,021,402).

Re claims 21, 28, and 35. Takriti discloses a computer-implemented method for identifying an excess energy capacity in a production supply chain operated by a supply chain operator (i.e., These values can be used in pricing the power at each time period of the planning horizon. Note that as time progresses, we obtain a new forecast. **The excess capacity in the electric system** (over the refined forecast) represents the amount of power that we should offer to sell in the market. In case of having less generation than the new forecasted load, we buy the needed power from the open market, see col.26 lines 35-45), comprising: identifying, by a supply chain optimizer, a potential production configuration for the production supply chain (i.e., a mathematical model of the problem is solved using appropriate optimization techniques. The solution provides the status of each generator at each time period of the planning horizon under each given scenario. By "status of a generator", what is meant is whether it is on or off. The solution also provides the load on each generator during each period in which it is

operating, an optimal fuel mix for each generating unit, and the prices for purchasing and selling power in the periods of the planning horizon. The technique used to solve the model provides information regarding the sensitivity of the solution to the input parameters and other valuable information to the decision maker, see the summary of the invention), wherein: the supply chain operator also operates at least one power generation facility to sustain industrial production by the production supply chain (see fig.2 element 12), (ii) the supply chain operator is capable of both consuming and selling electricity produced by the power generation facility while operating the production supply chain (i.e., marginal prices and sensitivity analysis for buying and selling, fig.2) , (iii) the potential production configuration is related to a target electricity production by the power generation facility (the applicant is basically defining what the potential production configuration is, thus carries no patentable weight i.e., descriptive non-functional element), and (iv) the potential production configuration reduces a production output and energy consumption for at least some portion of the production supply chain or increases electricity production by the power generation facility during a given time period determining (this is a descriptive non-functional element which carries no patentable weight), using a potential action valuation model, whether to reduce the production output of the production supply chain or increase electricity production by the power generation facility according to the potential production configuration to create the excess energy capacity during the time period; and if production output is determined to be reduced or electricity production by the power .generation facility is determined to be increased, selling the excess energy capacity created by

implementing the potential production configuration during the time period for the production supply capacity and the power generation facility (i.e., the procedure also provides the average cost per unit of power, .lambda..sub.t.sup.s, at each time period under every scenario. These values can be used in pricing the power at each time period of the planning horizon. Note that as time progresses, we obtain a new forecast. The excess capacity in the electric system (over the refined forecast) represents the amount of power that we should offer to sell in the market. In case of having less generation than the new forecasted load, we buy the needed power from the open market, see col.26 lines 35-45, see col.20 lines 1-15, also see " to avoid any blackouts, utilities make sure that, at each period, the maximum operating capacity of their system exceeds the demand of this period by a certain amount. This excess capacity is called "spinning reserves". To clarify the concept of spinning reserves, assume that our system has ten generators of which seven are on line at the current time period. Let us also say that the forecasted demand at this period is 12,000 MWH. In an optimal solution, the total generation would be close to 12,000 MWH. However, if the maximum capacity of our operating units; i.e., the total capacity when each unit is operating at G.sub.i,t, is close to 12,000 MWH, our system cannot take any unexpected increase in the demand. In other words, the reliability of our system is low. The reliability can be improved by forcing the total maximum capacity of the operating units to exceed the expected demand by a certain amount of power. This excess capacity is the spinning reserves and is indicated by r.sub.t.sub.s. There are other reserve constraints that can

be enforced to improve reliability. The treatment of such constraints is very similar to our treatment of spinning reserves," see col.12 line 63 through col.13 line 33).

Re claim 22. Takriti further discloses the method, wherein the potential action valuation model determines whether to reduce the production output of the production supply chain using a risk management model (see fig.2 element 111 and fig.3).

Re claim 23. Takriti further discloses the method, wherein the risk management model may be configured according to a set of risk tolerance criteria and risk performance criteria (i.e., What distinguishes our tool is that it allows the user to incorporate risk, through predictions of the load and fuel prices, and uses these predictions to create optimal schedules. Our tool uses hedging strategies to produce robust schedules that minimize cost and manage risk efficiently, see col.8 lines 60-65).

Re claim 24. Takriti further discloses the method, wherein the forecasted price for electricity during the time period is determined using a forecasting and planning model utilizing historical and real-time data (see col.8 lines 32-65).

Re claim 25. Takriti further discloses the method, wherein, if production output is determined to be reduced, prior to the time period, increasing the production output of the supply chain to prepare of the reduced production of the supply chain for the time period (i.e., Fourth, to avoid any blackouts, utilities make sure that, at each period, the maximum operating capacity of their system exceeds the demand of this period by a certain amount. This excess capacity is called "spinning reserves". To clarify the

concept of spinning reserves, assume that our system has ten generators of which seven are on line at the current time period. Let us also say that the forecasted demand at this period is 12,000 MWH. In an optimal solution, the total generation would be close to 12,000 MWH. However, if the maximum capacity of our operating units; i.e., the total capacity when each unit is operating at G.sub.i,t, is close to 12,000 MWH, our system cannot take any unexpected increase in the demand. In other words, the reliability of our system is low. The reliability can be improved by forcing the total maximum capacity of the operating units to exceed the expected demand by a certain amount of power. This excess capacity is the spinning reserves and is indicated by r.sub.t.sub.s. There are other reserve constraints that can be enforced to improve reliability. The treatment of such constraints is very similar to our treatment of spinning reserves, see col.12 line 63 through col.13 line 33).

Re claim 26. Takriti further discloses the method , wherein a data delivery engine is configured to supply real-time data (i.e., data generator, see fig.2 element 114 ad 111, see fig.3, also see fig.4 element 41) to the potential action valuation model, the supply chain optimizer, the forecasting and planning model, and the risk management model

Re claim 27. Takriti further discloses the method, wherein the real-time data includes real-time commodity prices for electricity (i.e., an estimate of the price of electricity in the open market, see col.5 lines 2-5).

Re claims 29 and 36. Claims 29 and 36 recite similar limitations to claim 22 above and thus rejected using the same art and rationale as in claim 22.

Re claims 30 and 37. Claims 30 and 37 recite similar limitations to claim 23 above and thus rejected using the same art and rationale as in claim 23.

Re claims 31 and 38. Claims 31 and 38 recite similar limitations to claim 24 above and thus rejected using the same art and rationale as in claim 24.

Re claim 32. Claim 32 recites similar limitations to claim 25 above and thus rejected using the same art and rationale as in claim 25.

Re claim 33. Claim 33 recites similar limitations to claim 26 above and thus rejected using the same art and rationale as in claim 26.

Re claims 34 and 39. Claims 34 and 39 recite similar limitations to claim 27 above and thus rejected using the same art and rationale as in claim 27.

Re claim 40. Takriti further discloses the method, wherein the production supply chain comprises one of an air component separation facility, an oil field electric pump network, a refinery, and a metal ore production facility (i.e., generating plant, see fig.2 element 12).

Re claims 41, 42. Claims 41 and 42 recite similar limitations to claim 40 above and thus rejected using the same art and rationale as in claim 40.

(10) Response to Argument

In response to the appellant's argument concerning the 35 U.S.C. 102(b) rejection of claim 21. Appellant's arguments filed 12/31/2007 have been fully considered but they are not persuasive. The appellant argues in substance that the primary reference of record, Takriti, fails to teach a method for identifying an excess energy capacity in a production supply chain for a supply chain operator that includes a potential production

configuration for the production supply chain, where the supply chain operator both: operates at least one power generation facility to sustain industrial production by the production supply chain, is capable of both consuming and selling electricity produced by the power generation facility while operating the production supply chain. Contrary to the appellant's assertion, the examiner contends that Takriti teaches a method for identifying an excess energy capacity in a production supply chain for a supply chain operator (i.e., Takriti teaches that the procedure also provides the average cost per unit of power, .lambda..sub.t.sup.s, at each time period under every scenario. These values can be used in pricing the power at each time period of the planning horizon. Note that as time progresses, we obtain a new forecast. **The excess capacity in the electric system** (over the refined forecast) represents the amount of power that we should offer to sell in the market. In case of having less generation than the new forecasted load, we buy the needed power from the open market, see col.26 lines 35-45). The examiner contends that the decision made in Takriti's to offer to sell the excess energy capacity alludes to the fact that Takriti explicitly teaches identifying an excess energy capacity in a production supply chain. The logic to the examiner's reasoning is predicated on the notion that the excess energy capacity is inherently identified, and once identified, then this excess energy capacity is offered for sale. Said another way, identifying an excess energy capacity inherently precedes the selling of an excess energy capacity. Thus if this is true, Takriti inherently discloses identifying an excess energy capacity in a production supply chain.

Takriti further teaches identifying a potential production configuration for the production supply chain where the supply chain operator both: operates at least one power generation facility to sustain industrial production by the production supply chain (i.e., Takriti teaches that a mathematical model of the problem is solved using appropriate optimization techniques. The solution provides the status of each generator at each time period of the planning horizon under each given scenario. By "status of a generator", what is meant is whether it is on or off. The solution also provides the load on each generator during each period in which it is operating, an optimal fuel mix for each generating unit, and the prices for purchasing and selling power in the periods of the planning horizon. The technique used to solve the model provides information regarding the sensitivity of the solution to the input parameters and other valuable information to the decision maker, see Takriti the summary of the invention, also fig.2 elements 12, also see col.7 lines 19-35). The examiner contends, as evidenced in the cited portion of Takriti's teachings hereinabove, that Takriti not only teaches at least one power generation facility to sustain industrial production. Takriti teaches may power generation facility to sustain industrial production.

Lastly, Takriti teaches "where the operator is capable of both consuming and selling electricity produced by the power generation facility while operating the production supply chain." (i.e., Takriti teaches that the procedure also provides the average cost per unit of power, .lambda..sub.t.sup.s, at each time period under every scenario. These values can be used in pricing the power at each time period of the planning horizon. Note that as time progresses, we obtain a new forecast. **The excess**

capacity in the electric system (over the refined forecast) represents the amount of power that we should offer to sell in the market. In case of having less generation than the new forecasted load, **we buy the needed power from the open market**," see col.26 lines 35-45, also see col.20 lines 1-15). As evidenced by the cited portion of Takriti's teachings hereinabove, Takriti explicitly teaches the consumption and the sale of the produced energy.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Ojo O. Oyebisi

Examiner /OJO O OYEBISI/

Art Unit 3696

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